

FORM PTO-1449 SAMUELS, GAUTHIER, STEVENS LLP
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SERIAL NO. 09/253,379

#6

Joannopoulos et al.
APPLICANT

2872
GROUP

02/19/99
FILING DATE

J. Winstedt
EXAMINER

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

APR 23 2001

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
FA	AA	5,333,090	07/26/94	Baumeister et al.	Z		10/13/92
PA	AB	5,400,179	03/21/95	Ito			02/17/93
DA	AC	5,214,530	05/25/93	Coombs et al.			11/27/91
DA	AD	5,194,989	03/16/93	Ferrante et al.			11/18/91
DA	AE	5,365,541	11/15/94	Bullock			08/27/93
	AF						
	AG						
	AH						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
FA	AI	1,230,329	4/28/71	Great Britain	Z		
PA	AJ	JP09064458	3/7/97	Japan			(Abstract yes)
PA	AK	WO 96/29621	9/26/96	PCT			yes
PA	AL	WO 97/33192	9/12/97	PCT			yes

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER INITIAL		
PA	AM	Baumeister, P. "The transmission and degree of polarization of quarterwave stacks at non-normal incidence." Optica Acta 8, 105-119 (1961)
PA	AN	Shellan, J. B. "Design of optimum high-reflectivity coatings for grazing angles of incidence." J. Opt. Soc. Am. A 2, 1057-1065 (1985)
PA	AO	Popov, K.V. et al. "Broadband high-reflection multilayer coatings at oblique angles of incidence." Applied Optics 36, 2139-2151 (1997).
PA	AP	Pochi Yeh et al., "Theory of Bragg Fiber"; J. Opt. Soc. Am., Vol. 68, No. 9, September 1978; Optical Society of America pgs; 1196-1201
PA	AQ	Yong Xu et al., "Asymptotic analysis of Bragg Fibers"; 2000 Optical Society of America; Optics Letters, Vol. 25, No. 24, December 15, 2000; pgs: 1756-1758

EXAMINER

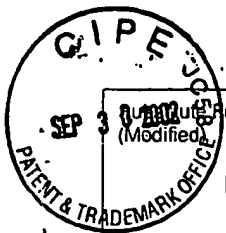
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EXAMINER:

Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

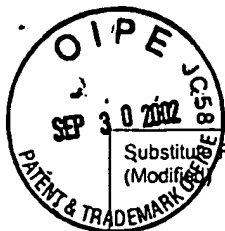


U.S. Patent and Trademark Office Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 13445-012002	Application No. 09/634,099
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant John D. Joannopoulos et al.	
		Filing Date August 8, 2000	Group Art Unit 2872

U.S. Patent Documents							
Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
TA	AA	4,852,968	08/1989	Reed	7		
TA	AB	5,185,827	02/1993	Poole			
TA	AC	5,261,016	11/1993	Poole			
TA	AD	5,365,541	11/1994	Bullock			
TA	AE	5,448,674	09/1995	Vengsarkar et al.			
TA	AF	5,641,956	06/1997	Vengsarkar, et al.			
TA	AG	5,661,839	08/1997	Whitehead			
TA	AH	5,740,287	04/1998	Scalora et al.			
TA	AI	5,814,367	09/1998	Hubbard, et al.			
TA	AJ	5,850,309	12/1998	Shrai et al.			
TA	AK	5,882,774	03/1999	Jonza et al.			
TA	AL	5,894,537	04/1999	Berkey et al.			
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TA	AO	6,044,191	03/2000	Berkey et al.			
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TA	AR	6,334,019	12/2001	Birks et al.			
TA	AS	6,349,163	02/2002	Antos et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
TA	AT	2,288,469	10/1995	Great Britain	7			
TA	AU	0 060 085	09/1982	Europe				
TA	AV	0 195 630	09/1986	Europe				
TA	AW	0 426 203	05/1991	Europe				
TA	AX	2000-035521	02/2000	Japan				

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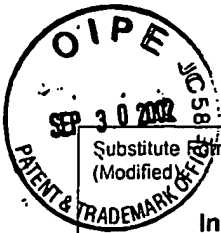


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							Yes	No
PA	AY	2001-051244	02/2001	Japan				
PA	AZ	9-64458	03/1997	Japan				
PA	AAA	WO 94/09393	04/1994	WIPO				
PA	ABB	WO 94/16345	07/1994	WIPO				
PA	ACC	WO 96/29621	09/1996	WIPO				
PA	ADD	WO 97/01774	01/1997	WIPO				
PA	AEE	WO 97/33192	09/1997	WIPO				
PA	AFF	WO 99/47465	09/1999	WIPO				
PA	AGG	WO 99/49340	09/1999	WIPO				
PA	AHH	WO 99/49341	09/1999	WIPO				
PA	AII	WO 00/22466	04/2000	WIPO				

Other Documents (include Author, Title, Date, and Place of Publication)		
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PA	ANN	D. Marcuse et al., "Mode conversion caused by diameter changes of a round dielectric waveguide," Bell Syst. Tech. J., 48, 3217-3232 (1969).
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PA	APP	E. Luneville et al., "An original approach to mode converter optimum design," IEEE Trans. Microwave Theory Tech., 46, (1998).
PA	AQQ	E. Marcatili et al., "Hollow metallic and dielectric waveguides for long distance optical transmission and lasers," Bell Syst. Tech. J., 43, 1783-1809 (1964).
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PA	ATT	H. Kumric et al., "Optimized overmoded TE ₀₁ -to-TM ₁₁ mode converters for high-power millimeter wave applications at 70 and 140 GHz," Int. J. Infrared Millim. Waves, 7, 1439-1463 (1986).

Examiner Signature FAMEZ ASSAT	Date Considered 9/27/04
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(Use several sheets if necessary)

(37 CFR §1.98(b))

Applicant
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August 8, 2000Group Art Unit
2872**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
FA	AUU	H. Kumric et al., "Optimization of mode converters for generating the fundamental TE ₀₁ mode from TE ₀₆ gyrotron output at 140 GHz," Int. J. Electron., 64, 77-94 (1988).
FA	AVV	H. Yajima, "Dielectric bypass waveguide mode order converter," IEEE J. Quantum Electronics, 15, 482-487 (1979).
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FA	AXX	J.C. Knight et al., "Photonic band gap guidance in optical fibers" Science 282, 1476-1478 (1998).
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FA	AAAA	J. S. Levine, "Rippled wall mode converters for circular waveguide," Int. J. Infrared Milim. Waves, 5, 937-952 (1984).
FA	ABBB	J.W. Hahn et al., "Measurement of nonresonant third-order susceptibilities of various gases by the nonlinear interferometric technique," J. Opt. Soc. Am. B, 12, 1021-1027 (1995).
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FA	ADDD	K. O. Hill et al., "Efficient mode conversion in telecommunication fiber using externally written gratings," Electron. Lett., 26, 1270-1272 (1990).
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FA	AFFF	L. M. Field, "Some slow-wave structures for traveling-wave tubes," Proc. IRE, 37, 34-40 (1949).
FA	AGGG	M. J. Buckley et al., "A single period TE ₀₂ -TE ₀₁ mode converter in a highly overmoded circular waveguide," IEEE Trans. Microwave Theory Tech., 39, 1301-1306 (1991).
FA	AHHH	M. J. Weber et al., "Measurements of the electronic and nuclear contributions to the nonlinear refractive index of beryllium fluoride glasses," Appl. Phys. Lett., 32, 403-405 (1978).
FA	AIII	M. Miyagi, et al., "Transmission characteristics of dielectric-coated metallic waveguides for infrared transmission: slab waveguide model", IEEE J. Quantum Elec. QE-19, 136-145 (1983).
FA	AJJJ	M. Miyagi, et al., "Wave propagation and attenuation in the general class of circular hollow waveguides with uniform curvature", IEEE Trans. Microwave Theory Tech. MTT-32, 513-521 (1984).
FA	AKKK	M. Otsuka et al., "Development of mode converters for 28 GHz electron cyclotron heating system," Int. J. Electron, 70, 989-1004 (1991).
FA	ALLL	M. Thumm, "High power millimeter-wave mode converters in overmoded circular waveguides using periodic wall perturbations," Int. J. Electron., 57, 1225-1246 (1984).
FA	AMMM	Mitsunobu Miyagi et al., "Design theory of dielectric-coated circular metallic waveguides for infrared transmission," J. Lightwave Tech., Vol. LT-2, 116-126, April 1984.
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FA	AOOO	Pochi Yeh et al., "Theory of Bragg fiber," J. Opt. Soc. Am., Vol. 68, 1196-1201 September 9, 1978.

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<i>TS</i>	APPP	R.A. Abram et al., "Mode conversion in an imperfect waveguide," J. Phys. A, 6, 1693-1708 (1973).
<i>TS</i>	AQQQ	S. Ahn et al., "Analysis of helical waveguide," IEEE Trans. Electron Devices, 33, 1348-1355 (1986).
<i>TS</i>	ARRR	S. H. Yun et al., "All-fiber tunable filter and laser based on two-mode fiber," Opt. Lett., 21, 27-29 (1996).
<i>TS</i>	ASSS	S.P. Morgan, "Theory of curved circular waveguide containing an inhomogeneous dielectric," Bell Syst. Tech. J., 36, 1209-1251 (1957).
<i>TS</i>	ATTT	T. Cardinal et al., "Nonlinear optical properties of chalcogenide glasses in the system As-S-Se," J. Non-Cryst. Solids, 256, 353-360 (1999).
<i>TS</i>	AUUU	T. Iyama et al., "Propagation characteristics of a dielectric-coated coaxial helical waveguide in a lossy medium, IEEE Trans. Microwave Theory Tech., 45, 557-559 (1997).
<i>TS</i>	AVVV	T. Liang et al., "Mode conversion of ultrafast pulses by grating structures in layered dielectric waveguides," J. Lightwave Tech., 15, 1966-1973 (1997).
<i>TS</i>	AWWW	T. ul Haq et al., "Optimized irregular structures for spatial- and temporal-field transformation," IEEE Trans. Microwave Theory Tech., 46, 1856-1867 (1998).
<i>TS</i>	AXXX	Y. Fink et al., "A dielectric omnidirectional reflector," Science, 282, 1679-1682 (1998).
<i>TS</i>	AYYY	Y. Fink et al., "Guiding optical light in air using an all-dielectric structure," J. Lightwave Tech., 17, 2039-2041 (1999).
<i>TS</i>	AZZZ	Y. W. Li et al., "Triple-clad single-mode fibers for dispersion shifting," IEEE J. Lightwave Technol., 11, 1812-1819 (1993).

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